## MINES AND GEOLOGY CALIFORNIA CONSERVATION

## CLAGGIFICATION OF UATEENAEY GUEFICIAL DE OGITG, GOUTHEEN CALIFOENIA AEEAL MA ING EOJECT (GCAM ) Glope-Failure Deposits Version 1.0 09/10/2000

(1)(3)Age ± Ka Landslide deposits Q4b **VEEY YOUNG.--**J ndissected surfaces; older Qls 19 elements may have organic layer and (or) slight A Q4a horizon Holocene 18 YOUNG.--J ndissected to slightly dissected surfaces; A/Cox and Bcambic soils; **Wyls** 17 slight to moderate K horizon; slight calcrete 16 15 **OLD.--**Moderately dissected 14 surfaces; good argillic horizon Qols 13 or good K horizon; moderate Pleistocene calcrete 12 VEEY OLD.--Well dissected surfaces; strong argillic horizon Qvols 11 or strong K horizons; good calcrete

- (1) Numerical time scale is not linear;
- (2)I errace-age designations proposed by McFadden (1982) and by Bull (1991, Figure 4.11) for alluvial deposits in Mediterranean-climate regimes of southern California:
- (3) Geomorphic-surface designations proposed by Bull (1991, I able 2-13) in arid climatic regimes of southern California

I YPE OF MOVEMENI			I YPE OF MAI E IAL		
			BED OCK	ENGINEE ING OIL	
				Predominantly Coarse	Predominantly fine
FALL			ock fall	one Debris fall on the state of	Earth fall
I OPPLE			ock topple	ြံ့ ိDebris topple ့ိ	Earth topple
LIDE	otational	Few	ock slump	ີ້ຶ Deprisຶslump ຶ,	Earth slump
	I ranslational	J nits	ock block slide	Debris block slide	Earth block slide
		Many J nits	ock slide	Debris slide	Earth slide
LAIE AL P EAD			ock spread	© Depris spread (	Earth spread
FLOW			ock flow	Debris flow	Earth flow
			(deep creep)	soil (soil)	creep)
COMPLEX			Combination of two or more principal types of movement		

I able 1.—I ypes of slope-failure processes and their geologic products (Varnes, 1978, Figure 2.1)

Bull, W. ., 1991, Geomorphic responses to climatic Varnes, D.J., 1978, lope movement types and processes, change: New York, Oxford J niversity Press, 326 p. in chister, .L., and Krizek, .J., eds., Landslides:

Matti, J.C., Miller, F.K., Powell, .E., Kennedy, .A., and Cossette, P.M., 1997a, Geologic-polygon attributes for digital geologic-map data bases produced by the outhern California Areal Mapping Project, version 1.0: J. . Geological urvey Open-File eport 97-860, 248 p.

McFadden, L.D., 1982, I he impacts of temporal and spatial climatic changes on alluvial soils genesis in southern California: I ucson, J niversity of Arizona, unpublished Ph.D. thesis, 430 p.

Varnes, D.J., 1978, lope movement types and processes, *in* chister, .L., and Krizek, .J., eds., Landslides: analysis and control: Washington, D.C., I ransportation esearch Board, National Academy of ciences, pecial eport 176, p. 11-33.